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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/226,088	01/05/99	MONTGOMERY	D 16650004US01

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EXAMINER

RICHARDS, N

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 08/02/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/226,088

Applicant(s)

MONTGOMERY, DONALD D.

Examiner

N. Drew Richards

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
- ☐ received.
 - ☐ received in Application No. (Series Code / Serial Number) _____.
 - ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.

- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities: "A source of ions" should read "said source of ions" so as to refer to the same source of ions as claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 8, 11, and 14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 8 recites that the material capable of reacting with ions or charged molecules forms a barrier between two or more lines of an integrated circuit. Claim 14 recites that the material capable of reacting with ions or charged molecules is placed at an interface between an insulating dielectric and a metallization layer linked to an electrode. Neither of these specific physical layouts is enabled by the specification. Claim 11 recites that the material capable of reacting with ions or charged molecules is capable of monitoring ion levels. It is not described in the specification how the claimed structure would monitor ion levels.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosenblatt (U.S. Patent No. 5,944,970).

Rosenblatt discloses a structure for scavenging ions or charged molecules in integrated circuitry comprising a material 106 (figure 2) capable of reacting with ions or charged molecules that is proximate a source 104 of contaminating ions or charged molecules. With regards to claim 2, it can be seen that when the device is in operation the material capable of reacting with ions or charged molecules generates an electric field.

With regards to claim 3, the material capable of reacting with ions or charged molecules is an inorganic semiconducting material as disclosed on column 3 line 63. With regards to claim 4, it can be seen in figure 2 that the material capable of reacting with ions or charged molecules forms a flat sheet. With regards to claim 5, Rosenblatt teach on column 3 lines 60-65 that the material 106 is formed in a ring that can be seen in figure 2 to be substantially around a source or ions.

With regards to claim 6, it can be seen from figure 2 that the material 106 forms a substantial barrier between an integrated circuit and an external source of ions. With regards to claim 7, it can be seen in figure 2 that the material 106 forms a substantial barrier between two or more components of an integrated circuit. For example, components 108 and 120. Further, with regards to claim 8, the material 106 forms a substantial barrier between two lines of an integrated circuit, for example lines 102 and 118.

With regards to claims 9-11, the recited limitations are merely intended uses for the structure and do not distinguish patentability over prior art. See *In re Pearson* 181 USPQ 641 (CCPA) which makes clear that terms merely setting forth intended use for, or a property inherent in, an otherwise old composition do not differentiate claimed composition from those known to prior art. See also, *In re Swinehart* [169 USPQ 226] (CCPA 1971) which makes clear that mere recitation of a newly discovered function or property, inherently possessed by things in prior art, does not cause claim drawn to those things to distinguish over prior art.

6. Claims 1-4, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (EP 0 389 171).

Brown et al. disclose a structure for scavenging ions in integrated circuitry comprising a material 4 (figure 3) capable of reacting with ions that is proximate a source 3 of contaminating ions. With regards to claim 2, the material 4 generates an

electric field. With regards to claim 3, the material 4 is an inorganic semiconductor material. With regards to claim 4, the material 4 forms a substantially flat sheet.

With regards to claim 12, the material 4 forms a MOS gate. With regards to claim 13, the MOS gate substantially forms an electrode. With regards to claim 14, the material 4 is placed "substantially" at an interface between an insulating dielectric 3 and a metallization layer 6 operably linked to an electrode.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grimaldi et al. (U.S. Patent No. 5,798,554) teach a MOS-technology power device with a gettering structure. Purbrick et al. (U.S. Patent No. 4,773,970) teach an ion-sensitive electrochemical sensor. Covington et al. (U.S. Patent No. 4,502,938) teach an encapsulated chemoresponsive microelectronic device. Battilotti et al. (U.S. Patent No. 5,035,791) teach an ion sensor with an organic membrane.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Drew Richards whose telephone number is (703) 306-5946. The examiner can normally be reached on M-F 8:00-5:30; Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mahshid Saadat can be reached on (703) 308-4915. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



NDR
July 31, 2000



Mahshid Saadat
Supervisory Patent Examiner
Technology Center 2800